

Alg. 2 Warm Up # 6-2

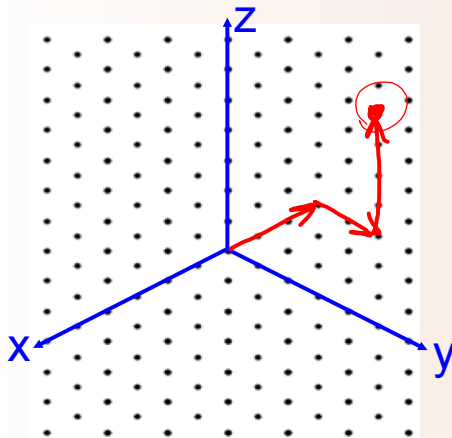
In the Friday space!!

Find the exponential equation through:

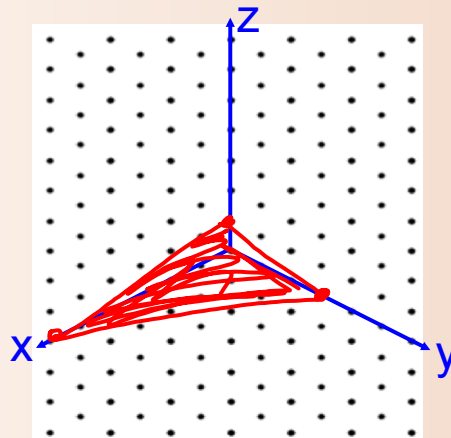
(6, 8192) and (-2, 0.125)

Tan worksheet:

1. $(-3, 2, 4)$



2. $x + 2y + 6z = 6$



Tan worksheet: Elim x

$$\begin{array}{l}
 5. \textcircled{1} (x + 7y - 6z = -12) \times 2 \rightarrow 2x + 14y - 12z = -24 \\
 \textcircled{2} -2x - 3y + z = -9 \rightarrow -2x - 3y + z = -9 \\
 \textcircled{3} 2x + 5y + 5z = 19 \\
 \hline
 \textcircled{2} + \textcircled{3} \quad \frac{2y}{2} + \frac{6z}{2} = \frac{10}{2} \\
 y + 3z = 5 \\
 \textcircled{1} + \textcircled{2} \quad \frac{-y}{-1} + \frac{z}{1} = \frac{3}{1} \leftarrow -y + z = 3 \\
 \hline
 4z = 8 \\
 z = 2 \\
 y + 3(2) = 5 \\
 -6 \quad -6 \\
 y = -1 \\
 \textcircled{1} \quad x + 7(-1) - 6(2) = -12 \\
 x - 7 - 12 = -12 \\
 x = 7 \\
 \boxed{(7, -1, 2)}
 \end{array}$$

Tan worksheet:

$$y = ax^2 + bx + c$$

$$b) (1, 3) \rightarrow 3 = a(1)^2 + b(1) + c$$

$$(-3, 39) \rightarrow 39 = a(-3)^2 + b(-3) + c$$

$$(6, 48) \rightarrow$$

$$a + b + c = 3 \quad \textcircled{1}$$

$$9a - 3b + c = 39 \quad \textcircled{2}$$

$$36a + 6b + c = 48 \quad \textcircled{3}$$

$$\textcircled{3} - \textcircled{2} \quad \frac{27a}{9} + \frac{9b}{9} = \frac{9}{9}$$

$$3a + b = 1$$

$$\textcircled{2} - \textcircled{1} \quad \frac{8a}{4} - \frac{4b}{4} = \frac{36}{4}$$

$$2a - b = 9$$

$$3a + b = 1$$

$$5a = 10$$

$$a = 2$$

$$3(2) + b = 1$$

$$b = -5$$

$$\text{Answer: } y = 2x^2 - 5x + 6$$

$$2 - 5 + c = 3$$

$$-3 + c = 3$$

$$c = 6$$

Tan worksheet:

$$7a) f^{-1}(x) = \sqrt[3]{\frac{x+6}{2}}$$

$$b) y' = (x-7)^2 + 3 \quad c) y' = \pm \frac{\sqrt{x}}{2} - 1$$

$$y' = x^2 - 14x + 52;$$

$$\text{for } x \geq 7$$

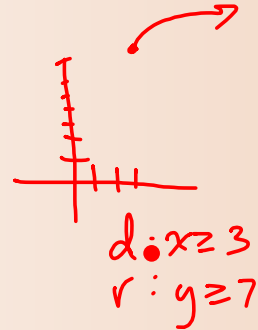
$$b) y = \sqrt{x-3} + 7 \rightarrow$$

$$x = \sqrt{y-3} + 7$$

$$(x-7)^2 = (\sqrt{y-3})^2$$

$$y-3 = (x-7)^2 + 3$$

$$y = (x-7)^2 + 3 ; x \geq 7$$



$$8a) 4^{x-7} = 5$$

$$\log_4 5 = x - 7$$

$$9a) \quad 3^{7x} = 27^{2x-5}$$

$$3^{7x} = (3^3)^{2x-5}$$

$$7x = 6x - 15$$

$$9c) \quad 3^x \cdot 3^4 = 9^{2x}$$

$$3^{x+4} = (3^2)^{2x}$$

$$3^{x+4} = 3^{4x}$$

$$9b) \quad 4^{x+2} = \left(\frac{1}{8}\right)^{x-6}$$

$$(2^2)^{x+2} = (2^{-3})^{x-6}$$

$$2x+4 = -3x+18$$

$$\frac{5x}{5} = \frac{14}{5}$$

$$11) \quad \frac{0.8}{2500} = \frac{ab^1}{ab^{-4}}$$

$$\sqrt[5]{0.00032} = \sqrt[5]{b^5}$$

$$b = 0.2$$

$$12) a) f(6) = (6+2)^2 - 3$$

$$f(6) = 61$$

$$12b) f(a+3) = (a+3+2)^2 - 3$$

$$= (a+5)^2 - 3$$

$$= a^2 + 10a + 25 - 3$$

$$= a^2 + 10a + 22$$

$$11. (1, 0.8) \quad (-4, 2500)$$

$$\frac{0.8}{2500} = \frac{ab^1}{ab^{-4}}$$

$$2500 = ab^{-4}$$

$$0.00032 = b^5$$

$$b = 0.2$$

$$\frac{0.8}{0.2} = \frac{a(\cancel{0.2})}{\cancel{0.2}}$$

$$a = 4$$

$$y = 4(0.2)^x$$

13) Condense

$$\underbrace{\log_2 x + \log_2 3} - \log_2 5$$

$$\log_2 3x - \log_2 5 \rightarrow \log_2 \left(\frac{3x}{5} \right)$$

14) Expand

$$\log_3 \left(\frac{x^2}{4} \right)$$

$$\log_3 x^2 - \log_3 4$$

$$2\log_3 x - \log_3 4$$

Test Chapter 6 time.
Scientific calculator ok, no graphers.

HW: Pink WS
Prep for Chapter 7